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Implications of the Conflict in Ukraine on Food Access and Availability in the East Africa Region

Update #3

June 2022

Highlights

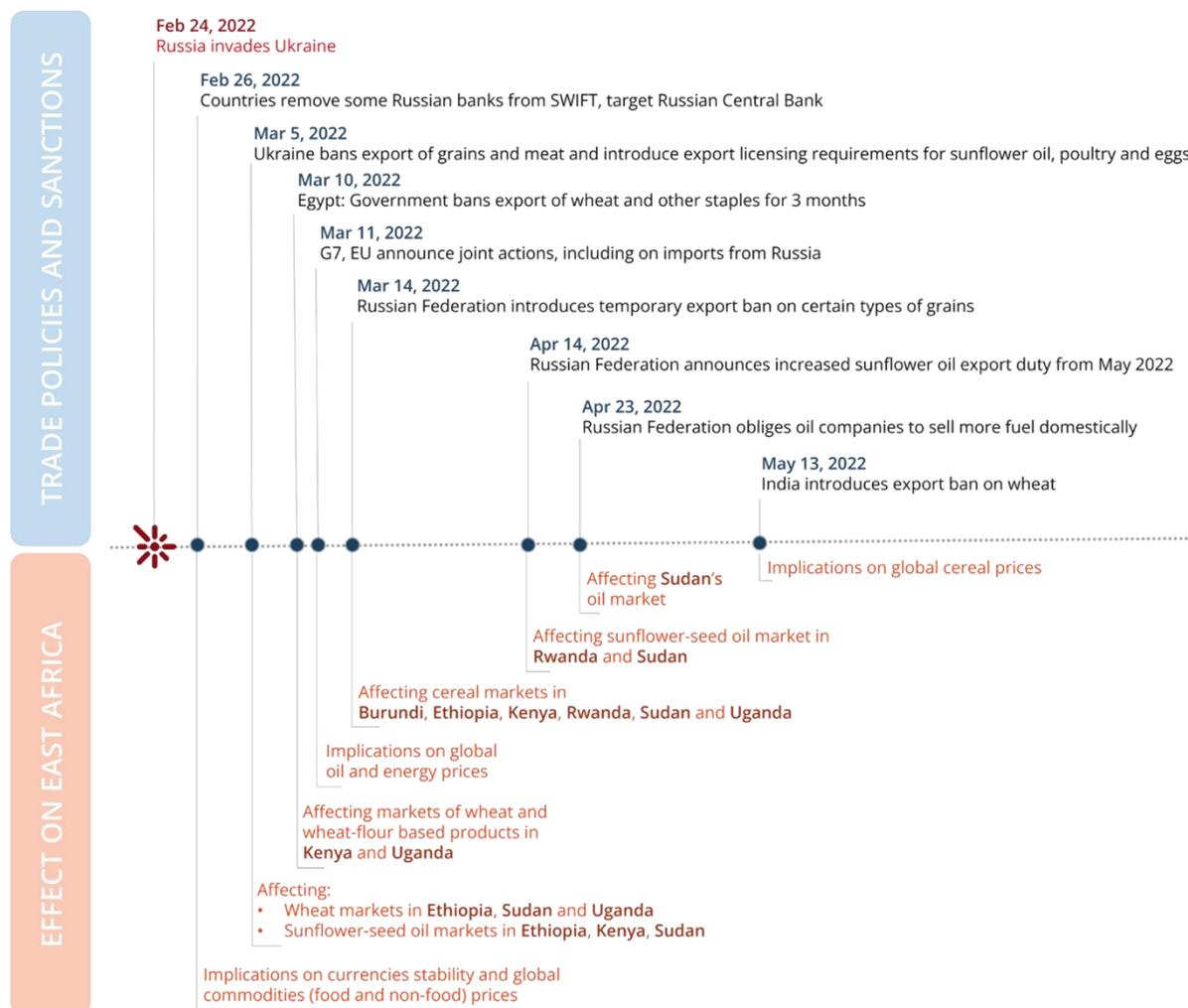
- Reduced agricultural production and blockades in the Black Sea Region coupled with trade restriction policies affecting flows of essential goods such as grains and sunflower-seed oil, led to a reduced availability of staples and a sharp increase in global grain prices in May 2022 of 48.6 percent for wheat, 28.7 percent for maize and 9.3 percent for rice, as compared to pre-war January 2022 prices with implications on local market prices across East Africa.
- As of May 2022, commodities recording the highest year-on-year (y-o-y) increase are vegetable oils (up 45.9 percent compared to April 2021), cereals (up 36.6 percent), and beans (up 14.1 percent).
- The rise in fuel and food prices pushed up inflation rate across East Africa countries, implying households – especially the poorest ones – have less resources to spend on essential food and non-food needs. In May 2022, headline inflation stood at over 37 percent in **Ethiopia** (from 34.5 in January 2022); at 10.5 percent in **Rwanda** (from 1.3 percent in the same period) and at 6.3 percent in **Uganda** (from 2.7 percent in January 2022).
- In May 2022, the average monthly price of the local food basket reached USD 17 per capita across the Eastern African countries – representing an increase of 51.1 percent from the same period last year (USD 12.2) and 18.4 percent from pre-war prices (USD 15.1 in January 2022). **South Sudan, Somalia** and **Rwanda** recording the highest percentage increase between January and May 2022.
- A correlation can be noted between international crude oil and global food prices. The results indicate the spill over of crude oil prices into essential food products. When the prices of crude oil peaked in March 2022, also the global prices of food, particularly vegetable oil and cereals registered a record high during the same period. The higher cost of energy most likely raised the cost of food production and agricultural activity (manufacturing, processing, packaging) and transportation in the short term.
- Global fertilizer prices have risen by nearly 30 percent since the start of 2022 because of surging input costs; supply disruptions caused by sanctions (Belarus and Russia), and export restrictions. As a result, the share of fertilizers imported into the region reduced, which also coincided with the peak March- April-May main planting season. WFP estimates that cereal production during the 2022 cropping year could potentially decrease by 16 percent (y-o-y) because high fertilizer and fuel prices. The RAM teams are currently expanding the analysis of the impacts of reduced fertilizer imports on the region over the longer term. As of June 2022, countries seeing the sharpest reduction in fertilizer imports were **Ethiopia, Rwanda**, and **Kenya**.

Short-Term Outlook (June – August 2022)

- All countries in Eastern Africa have and will continue to be affected either directly or indirectly by the spill-overs of Ukraine's war because of their low level of economic resilience. Due to high level of imports of wheat and other goods from Russia (13 percent of total imports), and 85 percent of wheat requirement met through imports, **Sudan** is the most directly exposed and the most vulnerable to the crisis. Other highly vulnerable countries in the region include **Kenya, Djibouti**, and **Burundi**.
- According to the World Bank (June 2022), bans on wheat exports imposed by the Russian Federation alone led to a 7-percentage point increase in world wheat prices. Further escalation in trade interventions by any of the top five exporters of wheat is likely to push global wheat price up by at least 13 percent – which is likely to be even higher if other economies react and, in turn, will be transmitted to other grains. The prospects for 2022 remain uncertain with the ongoing conflict in Ukraine and the drought in the Horn of Africa that will more likely continue to influence price volatility of essential food and non-food commodities at the global level, leading to an expected upsurge in poverty and food insecurity of vulnerable population, due to unaffordability of basic needs.

I. Trade Policies – Implications across East Africa

Figure 1: Timeline of Ukraine's War-related trade policies and their impact in East Africa



Source: Global Trade Alert

After more than 100 days since the beginning of the conflict and peace agreement grinded to a halt, the economic and trade interlinkage between the Russian Federation, Ukraine and the East Africa Region remain of concern, leading to significant uncertainties among producers and consumers across the region, who are facing increased energy, fertilizer, and commodity prices, which, in turn are further fuelling inflation and slowing down prospects of economic growth and recovery.

The economic fallout of the Ukraine's war added to other existing socio-economic drivers of food insecurity. As the war is pushing global food prices and costs of energy up, food availability and access in local markets across East Africa are threatened by disruptions in supply of agricultural commodities and related price spikes; increased transport costs; and costlier agricultural inputs.

Massive displacement and inaccessibility of agricultural fields reduced production in Ukraine. In addition, port blockades in the Black Sea Region (particularly cargo vessels carrying wheat) led to a reduced availability of staples and a sharp increase in global grain prices, with global wheat price reaching USD 1,146 cents per bushel in May, a 48.6 percent increase from pre-war prices (January 2022) and a 63.3 percent increase compared to the same month last year. Similar upward pressures have been observed in

the price of other grains that are close substitutes for wheat – e.g., maize and rice (up 28.7 percent and 9.3 percent compared with pre-war prices)¹.

Other than reduced production and blockades, trade bans imposed by Ukraine, the Russian Federation and other key grain producing countries (e.g., India, China etc) contributed to reduced global grain supply and to increased price observed to date. Since the beginning of the war, 53 new trade policies (67 including subsidies) have been imposed or announced either in reaction to sanctions or in an effort to shield domestic consumers from global price spikes. Export restrictions – such as outright bans or licensing requirements – account for 31 new measures².

Following sanctions imposed by the European Union and the U.S., the Russian Federation has imposed several trade restrictions, including bans on exports of wheat and other food products. According to the World Bank, bans on wheat exports imposed by the Russian Federation alone led to a 7-percentage point increase in world wheat prices (approximately one-sixth of the observed price surge). Further escalation in trade interventions by any of the top five exporters of wheat³ is likely to push global wheat price up by at least 13 percent – which is likely to be even higher if other economies react and, in turn, will be transmitted to other grains⁴.

As figure 1 shows, different trade policies would have different impacts in the Eastern African Region, depending on the characteristics of trade flows, production, and consumption in the countries affected.

Trade bans and increased costs of energy have resulted in skyrocketing prices of local commodities, especially grains and sunflower-seed oil (more details available in section II of this report). Ukraine's decision to ban exports of grains coupled with export licensing requirements on sunflower-seed oil in early March has affected local prices of grains and sunflower-seed oil in **Ethiopia, Kenya, Sudan, and Uganda**. Market prices in the above-mentioned countries as well as in **Burundi, Rwanda** have also been affected by trade bans imposed by the Russian Federation at a later stage (mid-March).

Aside from the direct impact on agricultural production, exports and increased prices in local markets, the Ukraine's war is affecting fertilizer trade as the Russian Federation and Belarus are the world's second and third-largest producers of potash fertilizer, respectively. Shortages in fertilizer production and related price increases due to the war could translate into lower crop yields, especially in Eastern Africa, which is experiencing a prolonged drought since early 2021 (more details available in section VI of this report).

¹ FocusEconomics, Consensus Forecast Agricultural Commodities - June 2022

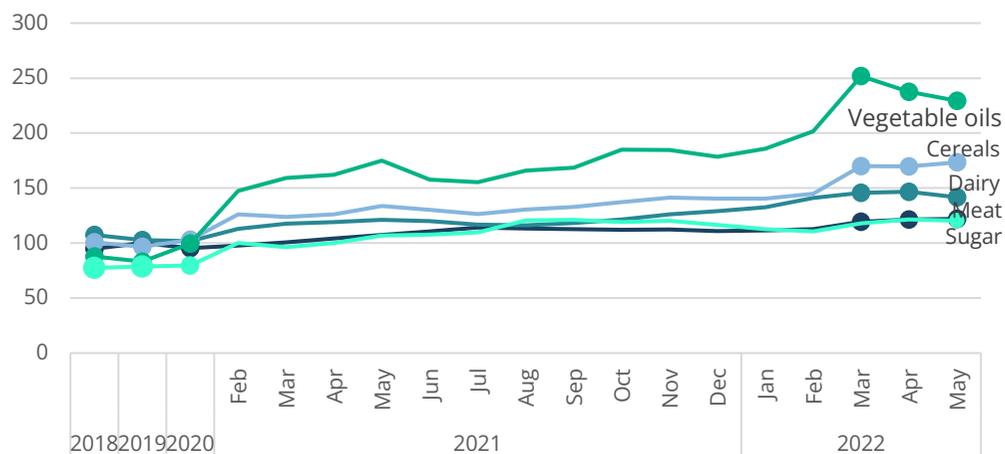
² [Global Trade Alert - Global Dynamics](#)

³ Russia, United States, Australia, Canada, Ukraine.

⁴ World Bank. 2022. The Impact of the War in Ukraine on Global Trade and Investment. Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/37359>

II. Overview Global Food Prices⁵

Figure 2: Food Commodity Price Index, 2018-2022



Source: FAO

well as reduced production prospects in Ukraine because of the war. Slightly improved crop conditions in the United States of America, seasonal supplies in Argentina and the imminent start of Brazil's main maize harvest led maize prices to decline by 3.0 percent; however, they remained 12.9 percent above their level of May 2021.

A correlation can be noted between international crude oil and global food prices following similar patterns. The results indicate the spill over of crude oil prices into essential food products. When the prices of crude oil peaked in March 2022 (up 25 percent on average, as compared to pre-war January 2022 prices), also the global prices of food, particularly vegetable oil and cereals registered a record high during the same period (up 35.4 and 21 percent respectively, as compared to pre-war January 2022 prices). The higher cost of energy most likely raised the cost of food production and agricultural activity (manufacturing, processing, packaging) and transportation in the short term. These global trends were transmitted and passed-through the local markets, yet with a one-month time lag, where the cost of food basket increased across all the Eastern African countries in April 2022 (up 18.4 percent from January pre-war prices), recording the highest increase since 2022. The prospects for 2022 remain uncertain with the ongoing conflict in Ukraine and the drought in the Horn of Africa that will more likely continue to influence price volatility of essential food and non-food commodities at the global level, leading to an expected upsurge in poverty and food insecurity of vulnerable population, due to unaffordability of basic needs.

⁵ The section is based on FAO Food Price Index. More information on the methodology is available here: <https://www.fao.org/worldfoodsituation/foodpricesindex/en/>

Global food prices continued to increase further this year, showing an overall rise of 18 percent during the first five months of 2022, as compared to previous year. As of May 2022, commodities recording the highest year-on-year (y-o-y) increase are vegetable oils (up 31.1 percent compared to May 2021), cereals (up 29.7 percent), and dairy products (up 16.9 percent).

In terms of month-on-month (m-o-m) variations, the prices of vegetable oil and cereals peaked in March 2022 to 24.8 percent and 17 percent higher than February 2022 – registering a record high value. In May 2022, prices slightly dropped for vegetable oil (down 3.5 percent) but experienced an increase of 2.2 percent for cereals, as compared to April 2022. The drop in global vegetable oil prices in May 2022 was due to demand-rationing and restrained global import purchases, following the record high prices seen lately. As for the slight increase in global cereal prices, was in response to an export ban announced by India amidst concerns over crop conditions in several leading exporting countries, as

III. Food Basket and its Components

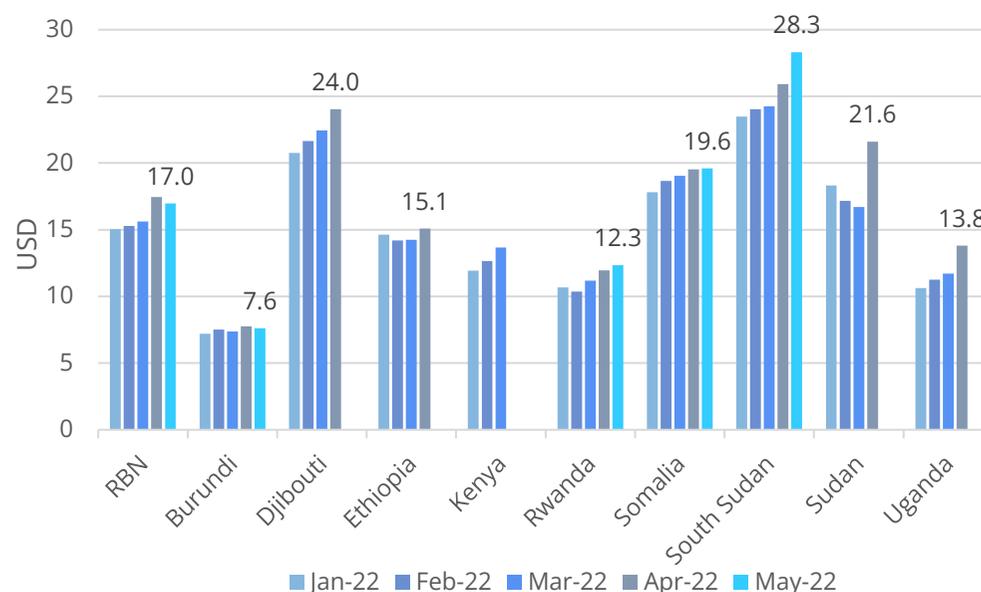
In May 2022, the average per capita monthly price of the local food basket⁶ reached USD 17 across the Eastern African countries⁷ – representing an increase of 53.6 percent from the same month last year (USD13.2) and 21.6 percent from pre-war prices (USD 15.1 in January 2022). Compared to the pre-war prices, the cost of the food basket increased in all the Eastern African countries with **Sudan, South Sudan** and **Rwanda** recording the highest percentage increase (up 44, 22 and 16 percent, respectively) between January and May 2022.

The commodities that predominately led to the rise in the cost of the basket in May 2022 as compared to pre-war January prices were cereals (sorghum) in **Sudan** (up 174 percent) and **Somalia** (up 36 percent). In the same time period, milk price soared in **Sudan**, (up 157 percent between January and May 2022), as well as vegetable oil price in **Djibouti** (up 72 percent) and price of beans in **Burundi** (up 28 percent).

In May 2022, the most expensive food basket was seen in **South Sudan** (USD28.3) and **Somalia** (USD 19.6).

In terms of the m-o-m variations between April and May 2022, the cost of the food basket was higher across all countries in the region (up 4.0 percent on average), with noticeable increases in South Sudan (up 9.7 percent) and **Ethiopia** (up 9.0 percent). Regarding the y-o-y variations, peaks in the cost of food basket were seen in **Sudan** (up 138.7 percent) mainly due to the rise in the prices of cereals and milk, followed by **Ethiopia** (up 73.8 percent) and **Somalia** (up 40.5 percent), with noticeable rise in the prices of cereals and vegetable oil in both countries.

Figure 3: Cost of Food Basket Monthly Trends in USD, January – May 2022



Source: WFP Field Monitor, FX Top

⁶ Due to price data availability, the food basket for Uganda has been recalculated and it includes: beans, maize flour, vegetable oil and sorghum. Quantities have not changed.

⁷ Excluding Kenya due to lack of data during the reporting period

Following the conflict in Ukraine, trade between countries continue to be disrupted, imposing bottlenecks in supply and rise in prices of imported essential commodities. At the domestic level, agriculture production is severely impacted by the drought and protracted conflict, imposing concerns on food availability and households' purchasing power, which are more likely to continue due to the persistence of climatic and economic shocks. These repercussions could have a huge toll on the most vulnerable households who can be further pushed into extreme poverty and displacement as essential commodities and resources become more unaffordable and scarcer.

Table 1 and 2: Cost of food basket and of selected components, with month-on-month and year-on-year variations

Country	Food Basket (per capita/month)								Country	Variations in selected components of the food basket (LCU)							
	USD	LCU	Variations (LCU)							m-o-m				y-o-y			
			m-o-m	Before conflict	y-o-y		Cereals	Beans		Vegetable oil	Milk	Cereals	Beans	Vegetable oil	Milk		
	May-22	Apr-22	May/Jan 2022	May-21													
Burundi	7.6	24,787	▬	0.4%	▬	1.2%	▲	26.2%	Burundi	0.1%	1.5%	0.0%		20.4%	26.7%	40.6%	
Djibouti*	24.0	4,273	▲	7.1%	▲	15.8%	▲	27.3%	Djibouti*	0.0%	5.8%	22.0%		27.3%	12.0%	72.4%	
Ethiopia		1,119	▲	9.0%	▲	31.9%	▲	73.8%	Ethiopia	8.5%	25.0%	3.3%		77.4%	23.5%	97.7%	
Kenya									Kenya								
Rwanda	12.3	12,624	▬	3.6%	▲	15.9%	▲	28.2%	Rwanda	2.7%	3.8%	6.0%		32.2%	-0.6%	37.7%	
Somalia	19.6	535,274	▬	0.4%	▲	14.7%	▲	40.5%	Somalia	0.3%		0.4%	0.4%	35.7%		82.0%	50.7%
South Sudan	28.3	12,295	▲	9.7%	▲	21.6%	▲	14.1%	South Sudan	13.8%	-11.4%	9.9%		16.3%	6.9%	7.7%	
Sudan		12,551	▬	1.1%	▲	44.2%	▲	138.7%	Sudan	1.4%		6.3%	-0.4%	173.8%		32.5%	156.8%
Uganda*	13.8	48,869	▲	16.1%	▲	30.2%	▲	25.4%	Uganda*	15.2%	21.3%	6.7%		37.0%	3.6%	43.5%	
RBN	17.0		▲	4.0%	▲	21.6%	▲	53.6%	RBN	4.5%	4.7%	4.8%		36.6%	14.1%	45.9%	

Source: WFP Field Monitor, FXTop

Data for Djibouti and Uganda is as of April 2022 and excluded from May 2022 regional average. Ethiopia and Kenya data is unavailable for May 2022.

IV. Inflation⁸ and Poverty

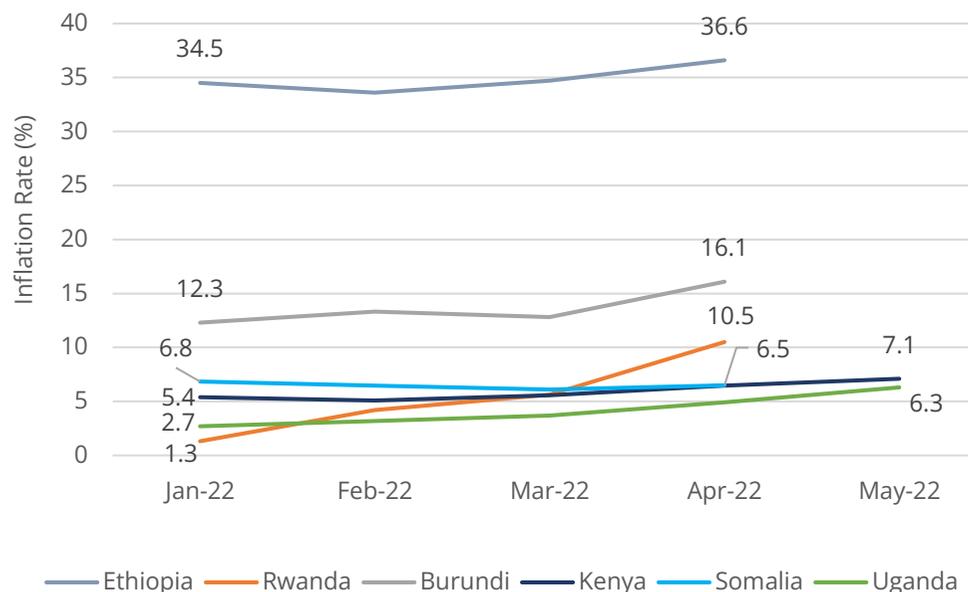
Both Russia and Ukraine are net exporters of agricultural products and key suppliers to many countries that are highly dependent on imported foodstuffs and fertilizers. For example, in 2021, **Somalia**, **Djibouti** and **Ethiopia** sourced about 90, 55 and 40 percent respectively of their wheat imports, and **Uganda**, **Sudan** and **Kenya** sourced more than 30 percent each from both Russia and Ukraine⁹. However, the repercussion of the war is impacting the levels of production and disrupting supply chains and trade of essential materials, leading to cost-push inflation, particularly in net importer countries who are dependent on both countries' resources.

In particular, the rise in fuel and food prices pushed up inflation rate across Eastern African countries. Inflation rate increased in Uganda to 6.3 percent in May 2022 from 2.7 percent in January 2022 and increased in Rwanda to 10.5 percent in April from 1.3 percent in January 2022. These inflationary pressures means that households will have less income to spend on essential food and non-food needs with higher exposure on poor households who are already struggling to put food on the table.

A simulation that was conducted to assess the welfare impacts of the war-induced changes in wheat and corn prices found that real household incomes could fall by 1.59 percent in **Ethiopia**, and 0.84 percent in **Kenya** on average ¹⁰.

Although, the effects of the war in Ukraine on household is not yet available, it is projected that there will be a rise in additional million people living in extreme poverty in 2022 – between 460 million and 464 million in Sub-Saharan Africa¹¹.

Figure 4: Inflation Rate, January –May2022



Source: Trading Economics

⁸ Data not available for Djibouti, South Sudan, and Sudan.

⁹ FAO, "Impacts of the Ukraine-Russia conflict on global food security and related matters", March 2022: <https://www.fao.org/3/ni734en/ni734en.pdf>

¹⁰ VoxEU, "War-induced food price inflation imperils the poor", April 2022: <https://voxeu.org/article/war-induced-food-price-inflation-imperils-poor>

¹¹ World Bank, "Pandemic, Crisis, and Poverty", April 2022: <https://blogs.worldbank.org/opendata/pandemic-prices-and-poverty>

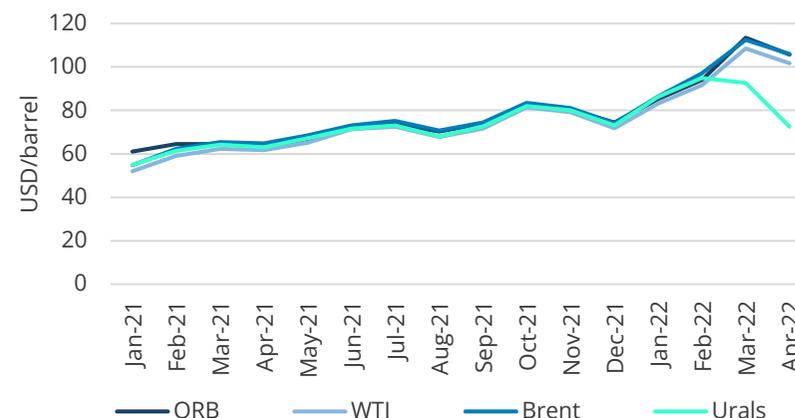
V. Crude oil and fuel

Since the invasion of Ukraine in February 2022, crude oil prices have increased sharply in February (up 11 percent compared to January 2022) and March (up 13 percent compared to February 2022). The rise in crude oil prices during March 2022 was 66 percent higher compared to March 2021, selling at USD 106.76/b on average – an all-time high since 2021. In April, crude oil prices dropped after three-consecutive months of rises – less 10 percent on average compared to March 2022, while remaining 53 percent higher than the same period during 2021¹² – due to well-supplied crude oil on the market in the short-term; yet the global market outlook remains uncertain. Figure 5 shows that all three oil benchmarks – ORB, WTI and Brent – increased in March 2022, except for Urals which dropped in March and April 2022 consecutively amid geopolitical tensions, and with Europe seeking alternatives to Russian oil product flows¹³. Despite the drop in the prices seen in April 2022, crude oil prices were 23 percent higher on average (excluding Urals) than pre-war January 2022 prices.

As of May 2022, pump prices of petrol remained stable compared to the previous month (up 0.5 percent), however, they increased by 54 percent compared to May 2021 – reaching an average price of USD /L 1.7 (Table 3). Given that all East African countries are net importers of crude oil and its products, the conflict in Eastern Europe has led to an increase in the cost of fuels – corresponding to 33.4 percent in May, as compared to pre-war January 2022 prices.

The global economic situation is resulting in increases in pump prices and fuel shortages in the region. **Burundi** is going through a fuel crisis which led to an increase in pump prices in the parallel market by 89 percent in April 2022 as compared to March 2022. Pump prices stabilized in May but remained high at USD/L 2.3. The rise in fuel prices is affecting food commodity prices due to higher transportation cost and manufacturing which is likely to disrupt households’ food availability and access. Despite of the applied fuel subsidy in **Kenya** to cushion consumers, fuel prices continue to rise reaching USD/L 1.3 in May 2022, pushed up by the global oil prices and reduction of exports from Russia.

Figure 5: Crude Oil Prices



Source: OPEC

Table 3: Petrol Prices, May 2022

Country	Petrol price					
	USD	LCU	Variations			
			m-o-m	y-o-y		
May-22	Apr-22	May-21				
Burundi	2.3	7,551	▲	4.0%	▲	164.1%
Djibouti	1.1	200	▬	0.0%	▬	2.6%
Ethiopia						
Kenya	1.3	151	▲	3.8%	▲	18.7%
Rwanda						
Somalia	1.1	31,331	▬	0.4%	▲	79.2%
South Sudan	2.7	1,154	▼	-8.5%	▲	6.9%
Sudan						
Uganda	1.5	5,376	▬	3.2%	▲	52.6%
RBN	1.7		▬	0.5%	▲	54.0%

Source: National CPIs, WFP field monitor, FX Top

¹² Average for all four main oil benchmarks for ORB, WFTI, Brent and Urals.

¹³ OPEC : Monthly Oil Market Report, May 2022: https://www.opec.org/opec_web/en/publications/338.htm

VI. Fertilizer Export Trade Restrictions, Increased Prices, and Impact on Crop Production

According to the World Bank¹⁴ global fertilizer prices have risen by nearly 30 percent since the start of 2022 because of surging input costs, supply disruptions caused by sanctions (Belarus and Russia), and export restrictions. As a result, the share of fertilizers imported into the region reduced, which also coincided with the peak March-April-May main planting season. Share of restricted fertilizer imports was highest in **Ethiopia, Rwanda, Kenya**. Accordingly, given reduced supplies and high demand fertilizer prices in the region, fertilizer prices have soared in domestic markets in line with the international trends, having doubled in most countries (Fig.6)¹⁵.

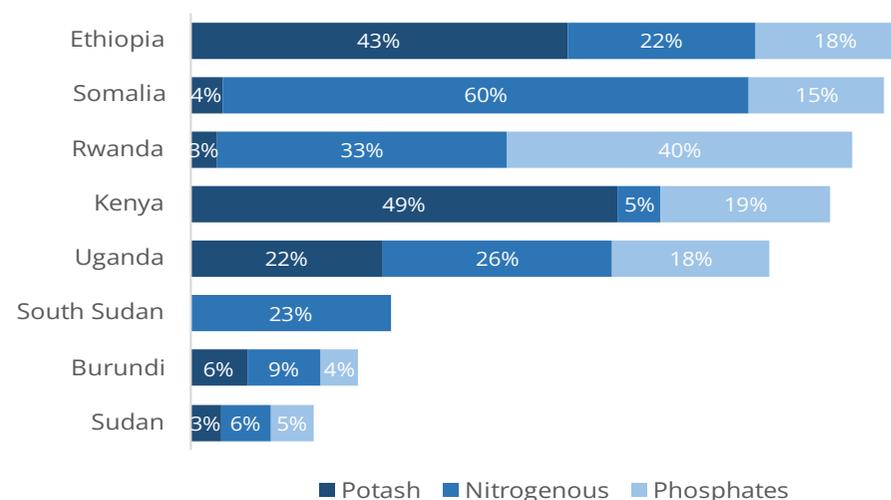
Combined with the hike in fuel prices region-wide (17-154 percent) in April 2022 year-on-year, the higher fertilizer prices will likely reduce consumption and reduce farmers’ ability to grow sufficient crops this year. WFP estimates that cereal production during the 2022 cropping year could potentially decrease by 16 percent (y-o-y) because high fertilizer and fuel prices. The total 2022 cereal production will be about 37.8 million MT, down from 45.2 million in 2021. This represents a reduction of 7.4 M in crop production. There is a likelihood of the number of food insecure people in the region rising by nearly 6-7 million by the end of the year solely because of the reduced crop production resulting from the rise in fertilizer prices and attendant reduction in use¹⁶.

Table 4: Fertilizer Prices in East Africa, June 2022

Country	Fertilizer Prices (LCU)			Price change (2022/2021)	
	Diammonium Phosphate (DAP)	Calcium Ammonium Nitrate (CAN)			
	2022	2021	2022	DAP	CAN
Kenya	5,850	3,000	3,600	63%	20%
Uganda	160	67	130	113%	94%
Sudan	50,000			72%	
Tanzania	139,000			85%	

Source: WFP

Figure 6: Share of restricted fertilizer imports following Ukraine's War, June 2022



Source: IFPRI

¹⁴ World Bank Blogs, [Fertilizer prices expected to remain higher for longer](#), 11th May 2022

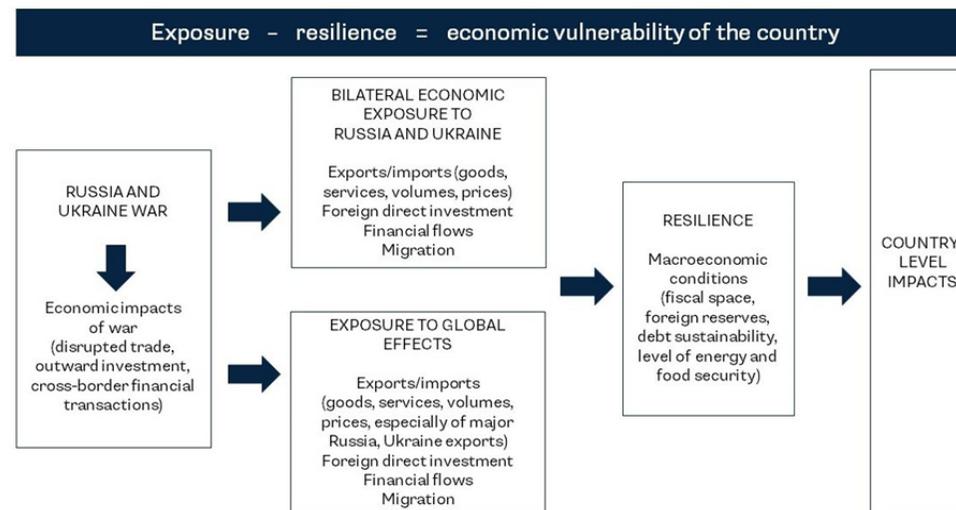
¹⁵ IFPRI, [Food & Fertilizer Export Restrictions Tracker](#)

¹⁶ WFP, [Estimated Likely Impact of Increased Fertilizer Prices on Cereal Production in Eastern Africa during 2022 Cropping Year](#), June 2022

VII. Economic Vulnerability to the Russia –Ukraine Crisis¹⁷

The impact of the ongoing Ukraine-Russia crisis will be felt far and wide through various pathways including trade disruptions and increased global food, fertilizer, and crude oil prices. Replicating the Raga and Pettinotti paper (Fig.7), economic vulnerabilities of Eastern Africa countries to the war are quantified using a composite index based on 27 proxy indicators highlighting which countries in the region are most vulnerable to the economic effects of the war. Country level economic vulnerability is measured as the combination of direct economic exposure to Russia and Ukraine (e.g., through bilateral trade and investment) and indirect exposure to the global effects of the war (e.g., through levels of commodity imports, trade and investment openness, tourism), less resilience (e.g., quality of economic governance etc) to manage the negative knock off effects of the war (Fig.1). The list of indicators, period covered, and thresholds are presented in Annex 1.

Figure 7: Country level economic vulnerability model (Raga and Pettinotti (2022))



a. Direct Economic Exposure

Reduced economic activity in both Russia and Ukraine will directly affect countries contingent on their bi-lateral economic exposure to the two countries (e.g., through trade, FDI, and remittances). The sub-index of direct economic exposure is calculated based on nine indicators that are tagged be vulnerable if they exceed 10 percent threshold. After aggregating the indicators, the result is an overall country score of direct exposure to Ukraine’s war from 0 to 9, the lowest being the least exposed and 9 represents the most directly exposed country. According to Raga and Pettinotti (2022), Sudan is the most directly exposed country in Eastern Africa to the economic effects of the war because of its high level of imports of wheat reaching about 85 percent, while meeting about 35 percent of its wheat requirement through imports from Russia and Ukraine. Wheat prices have more than doubled in domestic markets in **Sudan** and the trend is likely to sustain increasing trajectory in the whole of the year.

b. Indirect Economic Exposure

All countries in Eastern Africa have and will continue to be affected by indirectly through global spill-over effects of the Ukraine’s war depending on the general economic openness (e.g., trade, tourism, and investment). The indirect economic exposure index shows that all countries in the region have been affected indirectly through shortage and increased prices of fuel, food (particularly wheat and corn) and fertilisers etc. Other indirect channels will include weak global new investment, trade, and

¹⁷ This section is based on [Economic vulnerability to the Russia-Ukraine War](#), April 2022 by Sherillyn Raga and Laetitia Pettinotti. Somalia and South Sudan not included in the analysis due to lack of data

tourism. The sub-index of indirect economic exposure is calculated based on nine indicators that are tagged be vulnerable if they exceed a certain threshold. After aggregating the indicators, the result is an overall country score of indirect exposure to Ukraine’s war (exposure to the global spill-over effects of the war) from 0 to 9, the lowest being the least exposed and 9 represents the most directly exposed country. **Rwanda, Uganda, and Ethiopia** which have more 20 percent of tourism receipt of total exports will be the most affected. At the same time, Kenya, Ethiopia, Sudan, and Uganda have huge negative next food, fuel, wheat, and metal trade with Ukraine and Russia.

c. Economic resilience

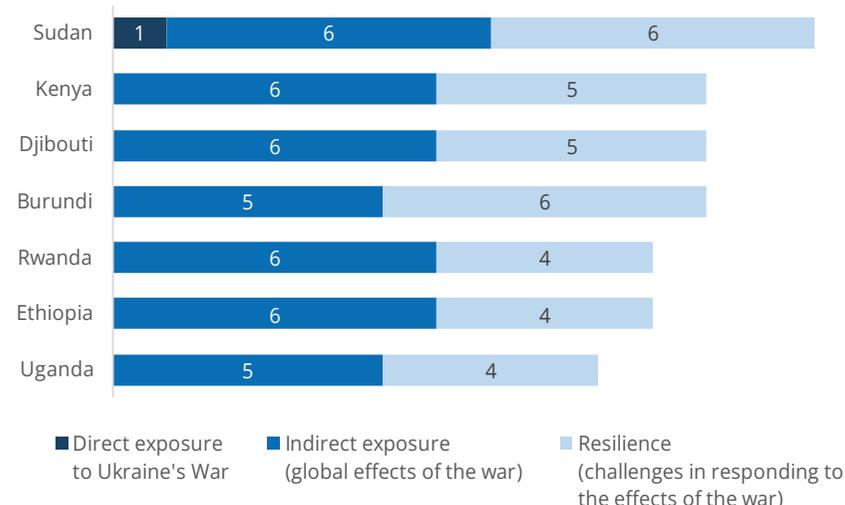
Economic resilience is the ability of a country to respond to a shock and includes indicators of fiscal and monetary space, governance and progress on energy transition aligned with climate goals as well as indicators of food security. The sub-index of direct economic exposure is calculated based on nine indicators that are tagged be vulnerable if they exceed 10 percent threshold. After aggregating the indicators, the result is an overall country score of director exposure to Ukraine’s war from 0 to 9, the lowest being the least exposed and 9 represents the most directly exposed country.

The least resilient countries in the region include **Sudan, Burundi, Kenya, and Djibouti**. **Sudan** and **Burundi** have fragile economies in addition to having weak economic fundamentals (high inflation, weak currency, high external debt, low foreign reserves, and limited fiscal space) and addition to high dependence on food and fuel imports. Kenya has one of the highest budget deficits in the region.

d. Economic vulnerability

Combining the three sub-indices (direct and indirect exposure, and level of resilience) gives an overall country level economic vulnerability to Ukraine’s war. The economic vulnerability index is an aggregation of the three sub-indices above, ranging from 0 to 27, which gives the overall country score of economic vulnerability, the lowest being the least economically vulnerable while the higher represents the most economically vulnerable to the Ukraine’s war. With specific reference to the impacts of the Ukraine conflict, the top four most vulnerable countries in Eastern Africa are **Sudan, Kenya, Djibouti, and Burundi**, owing to being net importers of fuel, wheat, corn, and metal while also having low levels of economic resilience. Sudan and Burundi having protracted macro-economic challenges (conflict, weak macro-economy, and governance).

Figure 8: Economic Vulnerability to the potential impacts of Ukraine's War (higher index = more vulnerable)



VIII. Government policy responses to inflation risks caused by the Ukraine-Russia Crisis

Facing the fallout of Ukraine’s war, different governments have implemented a raft of agricultural, social, monetary, and fiscal policy measures to stem rising food and energy inflation to ease the burden of high cost of living and protect the most vulnerable households.

Country	Policy responses
Kenya	<ul style="list-style-type: none"> • Government backed fertilizer subsidy programme launched in April 2022 to support farmers during the ongoing agricultural season • Increased large scale commercialization of unutilized empty government land for crop production • Gazettement of 99.1percent importation of non-GMO yellow maize for animal feeds • Continued 25 percent duty remission for maize imports from 5 countries • Duty waiver on maize, wheat and rice for the next four months
Djibouti	<ul style="list-style-type: none"> • Tax and VAT exception on essential foods from March and April (Ramadan month) • Price control on a limited list of food products with fixed prices
Burundi	<ul style="list-style-type: none"> • Population sensitization for increased consumption switch to local food products
Rwanda	<ul style="list-style-type: none"> • Maintained the Central Bank Rate (CBR) at 5 percent (monetary policy tightening of February 2022) • Continued fertilizer subsidies, promoting food substitution, strengthening extension services, and increasing the area under wheat production, among others.
Ethiopia	<ul style="list-style-type: none"> • Extension of eviction and rent increase ban for additional three months until May 2022 in Addis Ababa • Government of Ethiopia is encouraging Ethiopian diaspora to transfer remittances • Advancing reforms to unify the official and parallel exchange rates • Expansion of summer wheat production in over 400,000 hectares of land across the country. • Lifting of local taxes on key basic food commodities including wheat • Export ban of major food grains • 812-million-birr subsidy budget for wheat purchase for major miller (Heger Bakery and Flour Factory) • Excise and VAT waiver on wheat, edible oil, sugar, rice, pasta, eggs, macaroni, and rice • First priority for the allocation of foreign currency to manufacturers of edible oil • Planned government bulk importation 150 million litres of edible oil in the coming three months • Fuel subsidizes programme for public service vehicles (PSVs), including buses and taxis

IX. Statistical annexes- indicators used in the economic vulnerability computations

<i>Country</i>	<i>Income group</i>	<i>Exports of goods to Russia (% of total goods exports, ave. 2015–2020 or latest data)</i>	<i>Exports of goods to Ukraine (% of total goods exports, ave. 2015–2020 or latest data)</i>	<i>Imports of goods from Russia (% of total goods imports, ave. 2015–2020 or latest data)</i>	<i>Imports of goods from Ukraine (% of total goods imports, ave. 2015–2020 or latest data)</i>	<i>Total trade with Russia (goods exports+imports as % of GDP, ave. 2015–2020 or latest data)</i>	<i>Total trade with Ukraine (goods exports+imports as % of GDP, ave. 2015–2020 or latest data)</i>	<i>Russian outward FDI (as % of total FDI, ave. 2015–2020 or latest data)</i>	<i>Migrants to Russia (% of total migrants, 2017)</i>	<i>Migrants to Ukraine (% of total migrants, 2017)</i>
	threshold	>10%	>10%	>10%	>10%	>10%	>10%	>10%	>10%	>10%
Burundi	Low income	0.04	0.06	1.54	0.15	0.45	0.04		0.03	0
Djibouti	Lower middle income		0	0	2.13	0	1.31		0.06	0
Ethiopia	Low income	0.66	0.05	0.64	1.34	0.14	0.25	0	0.03	0.01
Kenya	Lower middle income	1.33	0.1	1.92	0.41	0.45	0.08	0.03	0.09	0
Rwanda	Low income	0.23	0	1.59	0.16	0.48	0.05		0.01	0
Sudan	Low income	0	0	12.48	0.81	3.51	0.22	0	0.01	0.01
Uganda	Low income	0.25	0.05	1.25	0.36	0.26	0.07	0	0.01	0.01

<i>Indirect exposure (global demand/ spill-over)</i>										
<i>Country</i>	<i>Income group</i>	<i>Net fuel trade (export-import) (\$ million), as of 2019 or latest data</i>	<i>Net wheat trade (export import), (\$ million), as of 2019 or latest data</i>	<i>Net metal trade (export-import), (\$ million), as of 2019 or latest data</i>	<i>Net food trade (export import), (\$ million), as of 2019 or latest data</i>	<i>Trade in goods and services (% of GDP, ave. 2015–2020 or latest data)</i>	<i>FDI inflows (% of GDP, ave. 2015–2020 or latest data)</i>	<i>remittances (% of GDP, ave. 2015–2020, or latest)</i>	<i>Migrants (% of population, 2015)</i>	<i>receipt (% of total exports, ave. 2015–2020 or latest)</i>
	threshold	<0	<0	<0	<0	>30	>10	>10	>10	>10
Burundi	Low income	-160.12	-30.93	-77.56	-45.02	45.63	0.32	1.54	2.57	1.21
Djibouti	Lower middle income	-31.61	-0.05	-20.08	-109.95	240.13	5.61	1.83	12.65	1.06
Ethiopia	Low income	-2634.27	-458.42	-1716.13	-416.16	33.65	3.9	0.77	1.08	39.08
Kenya	Lower middle income	-2871.72	-500.96	-1247.67	-289.71	35.78	1.19	2.63	2.35	15.12
Rwanda	Low income	-520.36	-52.63	-260.42	-147.05	55.23	2.56	2.35	3.8	25.12
Sudan	Low income	-849.75	-1691.72	-412.11	-833.09	48.05	3.1	1.14	1.25	19.88
Uganda	Low income	-1072.53	-171.82	-421.47	83.32	41.9	2.69	3.57	1.92	20.06

<i>Country</i>	<i>Income group</i>	<i>Fiscal balance (% of GDP, IMF estimate for 2021 or latest data)</i>	<i>Current account balance (% of GDP, IMF estimate for 2021 or latest data)</i>	<i>Foreign currency reserves (months of imports, 2020 or latest data)</i>	<i>External debt stock (% of gross national income)</i>	<i>Overall debt distress or external debt distress</i>	<i>Inflationary pressure (pp deviation from pre-Covid IMF forecast)</i>	<i>Renewable energy consumption (% of total final energy consumption, ave. 2015–</i>	<i>Net food imports (imports less exports) (% of total imports, ave. 2015–</i>	<i>Government effectiveness index, 2020</i>
Thresholds		<-3	<-3	<3	>50	In high risk of debt distress or in debt distress	>2	<20	>10	<0
Burundi	Low income	-7.19	-15.41	0.89	21.92	High	-3.4	91.17	13.7	-1.26
Djibouti	Lower middle income	-1.74	-4.7	2.3	81.52	High	-0.85	28.18	-16.6	-0.68
Ethiopia	Low income	-2.98	-2.87	2.05	28.36	High	15.92	91.56	6.4	-0.55
Kenya	Lower middle income	-8.01	-5.04	5.6	38.45	High	0.98	72.03	6.9	-0.35
Rwanda	Low income	3.9	-13.42	5.71	81.14	Moderate	-2.6	86.72	11.6	0.34
Sudan	Low income	-2.88	-10.07	0.3	115.59	In distress	127.36	63	6.7	-1.49
Uganda	Low income	-5.94	-8.89	3.9	46.54	Moderate	-2.53	91.07	-2.4	-0.58



vam
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